

# **LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES**



**OFFICE OF FISHERIES  
INLAND FISHERIES SECTION**

**PART VI -A**

**WATERBODY MANAGEMENT PLAN SERIES**

**WOOLEN LAKE**

**LAKE HISTORY & MANAGEMENT ISSUES**

November 2014: Prepared by Ryan Daniel, District 2 Biologist Manager

The remainder of this page left intentionally blank.

# TABLE OF CONTENTS

<b>LAKE HISTORY .....</b>	<b>5</b>
<b>GENERAL INFORMATION .....</b>	<b>5</b>
<i>Date Lake formed .....</i>	<i>5</i>
<i>Impoundment .....</i>	<i>5</i>
<i>Size (surface area) .....</i>	<i>5</i>
<i>240 acres .....</i>	<i>5</i>
<i>Watershed .....</i>	<i>5</i>
<i>Pool Stage .....</i>	<i>5</i>
<i>56.0 feet Mean Sea Level (MSL) .....</i>	<i>5</i>
<i>Parish .....</i>	<i>5</i>
<i>Spillway width .....</i>	<i>6</i>
<i>Figure 2. Photo of spillway on Woolen Lake, Richland Parish .....</i>	<i>6</i>
<i>Drawdown description .....</i>	<i>6</i>
<b>LAKE AUTHORITY .....</b>	<b>6</b>
<b>MAPS .....</b>	<b>6</b>
<i>Access .....</i>	<i>6</i>
<i>Boat Docks .....</i>	<i>7</i>
<i>Piers .....</i>	<i>7</i>
<b>PHYSICAL DESCRIPTION OF LAKE .....</b>	<b>7</b>
<i>Shoreline length .....</i>	<i>7</i>
<i>Timber type .....</i>	<i>7</i>
<i>Average depth .....</i>	<i>7</i>
<i>Maximum depth .....</i>	<i>7</i>
<i>Natural seasonal water fluctuation .....</i>	<i>7</i>
<i>Shoreline development by landowners .....</i>	<i>7</i>
<b>EVENTS / PROBLEMS .....</b>	<b>7</b>
<i>Flooding .....</i>	<i>8</i>
<i>Water Supply .....</i>	<i>8</i>
<b>MANAGEMENT ISSUES .....</b>	<b>8</b>
<b>AQUATIC VEGETATION .....</b>	<b>8</b>
<i>Type map .....</i>	<i>8</i>
<i>Treatment history by year available .....</i>	<i>8</i>
<b>HISTORY OF REGULATIONS .....</b>	<b>9</b>
<i>Recreational .....</i>	<i>9</i>
<b>DRAWDOWN HISTORY .....</b>	<b>9</b>
<b>FISH KILLS / DISEASE HISTORY .....</b>	<b>9</b>
<b>CONTAMINANTS / POLLUTION .....</b>	<b>9</b>
<i>Water quality .....</i>	<i>9</i>
<i>Water level .....</i>	<i>9</i>
<b>BIOLOGICAL .....</b>	<b>9</b>
<i>Fish Sampling History .....</i>	<i>9</i>
<i>Lake records .....</i>	<i>10</i>
<i>Stocking History .....</i>	<i>10</i>
<i>Genetics .....</i>	<i>11</i>
<i>Species profile .....</i>	<i>11</i>
<i>Threatened/endangered/exotic species .....</i>	<i>12</i>
<b>CREEL .....</b>	<b>12</b>
<i>Historic Information/Type .....</i>	<i>12</i>
<b>HYDROLOGICAL CHANGES .....</b>	<b>12</b>
<b>WATER USE .....</b>	<b>13</b>
<i>Hunting .....</i>	<i>13</i>
<i>Skiing .....</i>	<i>13</i>
<i>Swimming .....</i>	<i>13</i>
<i>Fishing .....</i>	<i>13</i>
<i>Fishing is popular, especially with boating anglers. There are no designated shoreline fishing areas or public fishing piers. ....</i>	<i>13</i>
<i>Irrigation .....</i>	<i>13</i>



# LAKE HISTORY

## GENERAL INFORMATION

### Date Lake formed

Woolen Lake is a completely separated oxbow of the Boeuf River.

### Impoundment

The State of Louisiana owns the waterbody.

< <http://doa.louisiana.gov/slo/slabsdataaccess.htm>>

### Size (surface area)

240 acres

### Watershed

The watershed consists primarily of agricultural land (cotton, corn, soybean, rice and cattle farms) and small woodlands. There are numerous single-family homes and camps along the shoreline.

### Pool Stage

56.0 feet Mean Sea Level (MSL)

### Parish

Woolen Lake is located in southwest Richland Parish (Figure 1).

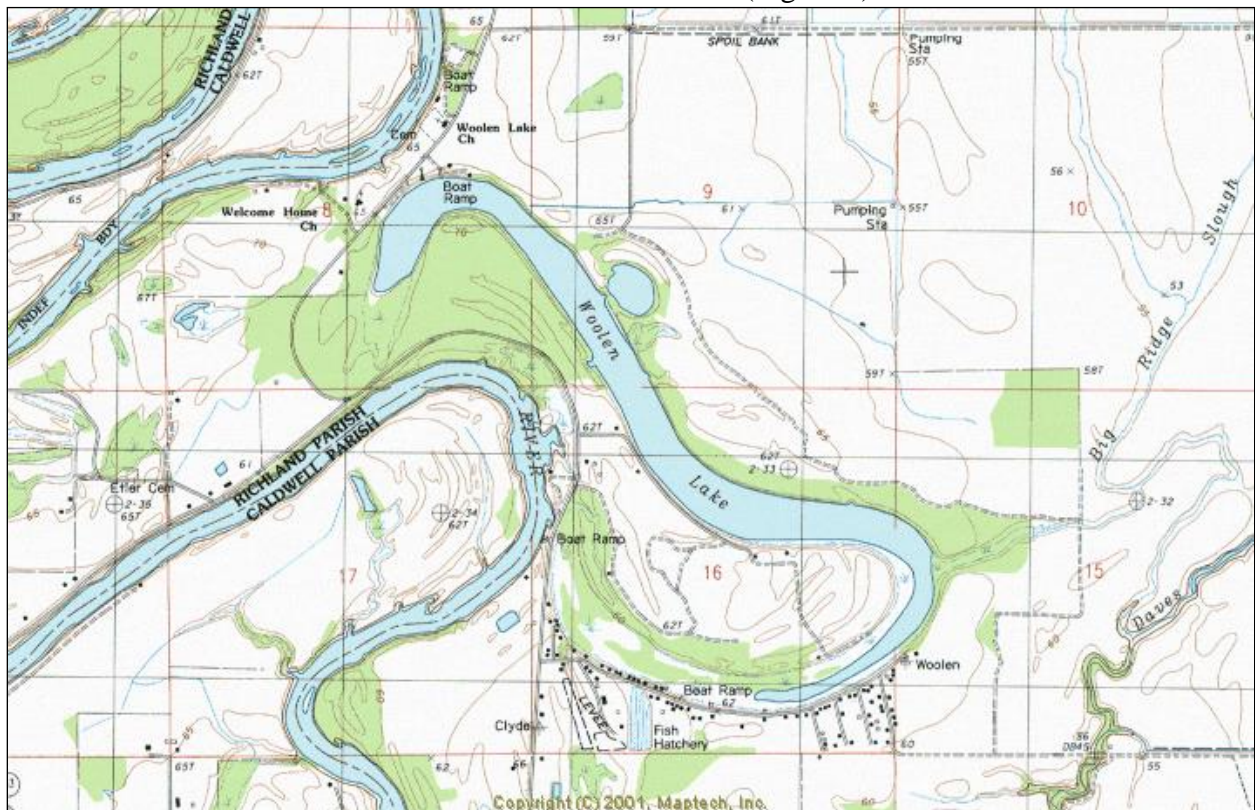


Figure 1. Map showing location of Woolen Lake in Richland Parish, Louisiana.

### Spillway width

The spillway portion of the concrete structure is 6.0 ft. wide (Figure 2).



Figure 2. Photo of spillway on Woolen Lake, Richland Parish.

### Drawdown description

The structure has no capability of dewatering the lake. If the lake were to be drawn down, a pump or siphon would be required to move water across the spillway and into the culvert that drains into the Boeuf River. The water depth in front of the structure is four feet at pool stage.

## **LAKE AUTHORITY**

The Richland Parish Police Jury (RPPJ) currently has authority on water control issues. The Woolen Lake Commission, previously established by Parish Resolution 08-03-09-01 is no longer a functioning entity.

Primary contact information –

- Richland Parish Police Jury – Parish Works Department
- Joey Evans – (318) 282-9080

### Maps

Available through the Richland Parish Police Jury or the Natural Resource Conservation Service - Rayville field office.

### Access

Currently, there is one open boat launch on Woolen Lake. It is located off of Woolen Lake Rd. on the south end of the lake. There is a three dollar launching fee.

The GPS coordinates are: N 32.192194, W -91.957486

### Boat Docks

There are no public boat docks on Woolen Lake.

### Piers

There are numerous private piers on Woolen Lake associated with residential houses and camps. No public piers are available.

## **PHYSICAL DESCRIPTION OF LAKE**

### Shoreline length

7 miles

### Timber type

Standing timber within the lake bottom is comprised of bald cypress (*Taxodium distichum*). Timber in the surrounding lands is minimal and comprised primarily of native hardwood species.

### Average depth

5 feet

### Maximum depth

15 feet

### Natural seasonal water fluctuation

2-3 feet

### Shoreline development by landowners

Residential with boat houses and piers, some cattle pasture

## **EVENTS / PROBLEMS**

### Fisheries Decline (1970's – 1980's)

LDWF biomass sampling with the use of the fish toxicant, rotenone indicated a decline in sportfish throughout the 1970's into the early 1980's. Significant shifts in the overall fish population were documented. The percentage of predatory gamefish in the population declined from 58.9% in 1971 to 12.5% in 1984. Reproduction of largemouth bass *Micropterus salmoides* and crappie *Pomoxis spp.* also declined. The decline was attributed to excessive irrigation from Woolen Lake to nearby rice crops. The results included very low water levels in late summer. This irrigation, combined with the small watershed of Woolen Lake, led to extended periods of low water. The use of water from the Boeuf River to refill the lake was recommended by some, though the Louisiana Department of Wildlife and Fisheries (LDWF) opposed, citing decreased water quality and introduction of rough fish species. Irrigation water for rice and other agricultural crops in the area is now primarily supplied by the Boeuf River.

### Controversial issues on the lake

Agricultural irrigation, primarily for rice production in the 1970's – 1980's, was blamed for excessively low water levels in the lake. LDWF had concern of nuisance submerged vegetation becoming established during extended periods of low water. The option to refill the lake by

diverting water from the Boeuf River through the control structure was initially opposed by LDWF in 1975, but in 1977 it was agreed that turbid water from the Boeuf River may act as a suppressor of submerged vegetation. LDWF once again opposes this action due to the risk of introduction of Asian carp into the lake. In 1987, the weir on Price's Bayou was raised 6 inches to hold more water in the lake and help alleviate the frequent low water situation.

There has been some dispute over the legality of the Police Jury appointing a lake commission to govern Woolen Lake. There have been many lake commission members appointed by the Police Jury since the 1960's under the guidance of LA RS 56:721. The controversy stems from the lake bottom being State-owned, as per declaration of the State Lands office in 1987 (letter on file). The District Attorney's office of the Fifth Judicial District, in a letter dated 8-11-2009 (Appendix B), declared that because Woolen Lake is owned by the State, the Parish has no authority to appoint a lake commission. It also states that a lake commission would only be authorized if legislation created a specific statute for a commission on Woolen Lake.

#### Flooding

None documented. Occasionally, at very high levels, the Boeuf River has back-flowed into Woolen Lake through the drainage structure.

#### Water Supply

Woolen Lake has been used for agricultural irrigation, though irrigation is now primarily for residential purposes.

## **MANAGEMENT ISSUES**

### **AQUATIC VEGETATION**

Coverage of aquatic vegetation is typically minimal on Woolen Lake. Alligator weed *Alternanthera philoxeroides* is common along the immediate shoreline and can become excessive in the shallow cove off of White Perch Rd. on the north end of the lake. Minimal amounts of water hyacinth *Eichhornia crassipes* and duckweed *Lemna spp.* are found in the lake. Submerged vegetation is limited to scattered coontail *Ceratophyllum demersum* in the shallows. The naturally high turbidity of this lake limits the growth of submerged vegetation.

#### Type map

No vegetation type map surveys have been conducted on Woolen Lake

#### Treatment history by year available

Applications of glyphosate, diquat dibromide, and 2,4-D have been required on occasion to control emergent and floating species when they have become a nuisance to homeowners. Most of the applications have been for water hyacinth, duckweed, and alligator weed. Information in Table 1 includes the total acreage sprayed on Woolen Lake since 2010.



Table 1. Total acres of vegetation treated on Woolen Lake, 2010 – 2014.

Year Sprayed	# Acres Sprayed
2010	47
2011	0
2012	42
2013	21
2014	20

## HISTORY OF REGULATIONS

### Recreational

Statewide regulations for all fish species; the 2014 recreational fishing regulations may be viewed at the link below:

<http://www.wlf.louisiana.gov/fishing/2014-2015-recreational>

### Commercial

Statewide regulations; the 2014 commercial fishing regulations may be viewed at the link below:

<http://www.wlf.louisiana.gov/fishing/commerical-regulations>

## DRAWDOWN HISTORY

No drawdowns conducted.

## FISH KILLS / DISEASE HISTORY

There is no documentation of significant fish kills or disease outbreaks in Woolen Lake. A reported kill in 2007 was invalidated. The observed dead fish were attributed to commercial fishing bycatch.

## CONTAMINANTS / POLLUTION

### Water quality

No consumption advisories have been issued for Woolen Lake.

### Water level

No water level records are kept from Woolen Lake.

## BIOLOGICAL

### Fish Sampling History

Sampling with the fish toxicant rotenone was the primary fisheries sampling method of LDWF from the 1960's through the early 1990's. It was discontinued due to negative public sentiment, potential health concerns of personnel, and availability of data from alternative sampling

techniques. Electrofishing is currently used as the primary largemouth bass sampling tool. Sampling with lead nets has become the primary crappie sampling tool for LDWF, though they have not been utilized in Woolen Lake. Gill netting is used to sample large fish, including bass and commercial species. The first sample with gill nets was conducted in March 2014. Table 2 describes historical sampling since 1964 and scheduled sampling through 2018.

Table 2. Summary of fisheries sampling conducted by LDWF on Woolen Lake.

WOOLEN LAKE FISH SAMPLING	
1965, 1971, 1984	Rotenone: two 1- acre samples. <i>Note: a rotenone sample consists of a 1 acre area blocked off with a net and the fish toxicant rotenone applied throughout, and fish collected for an hour after initial application and again the following morning</i>
1989	Electrofishing – one 15 minute night sample during summer. <i>Note: electrofishing samples are defined as 15 minutes of time that electrical current is actually being applied into the water. Only largemouth bass and crappie are collected.</i>
1994	Electrofishing – two 15 minute night samples during fall.
2004	Electrofishing – two 15 minute daytime samples during fall. Electrofishing Forage – one 15 minute sample in conjunction with the standardized electrofishing sample. <i>Note: all species are collected during an electrofishing forage sample.</i>
2007	Electrofishing - two 15 minute daytime samples during spring
2010	Electrofishing - two 15 minute daytime samples during spring
2013	Electrofishing - three 15 minute daytime samples during summer
2014	Gill Netting - two samples in March. <i>Note: a gill net sample consists of 4 gill nets of the following mesh sizes fished simultaneously in the same area: 2.5", 3.0", 3.5", and 4.0". Nets typically fished overnight for approx. 24 hrs.</i> Electrofishing - three 15 minute daytime samples during summer
2015	Lead Nets – two samples in fall. <i>Note: a lead net sample consists of running 2 separate nets in tandem at a set location for a period of approx. 48 hrs.</i>
2017	Gill Netting - two samples in January Electrofishing – three 15 minute daytime samples during spring and fall
2018	Lead Nets – two samples in fall.

#### Lake records

No lake records compiled.

#### Stocking History

No LDWF fish stockings have been conducted in Woolen Lake.

## Genetics

Genetic sampling has not been conducted on this waterbody.

## Species profile

Table 3 lists the fish species documented from Woolen Lake.

Table 3. List of fish species documented from Woolen Lake, Louisiana

### Gar Family, LEPISOSTEIDAE

- Spotted gar, *Lepisosteus oculatus* (Winchell)
- Longnose gar, *Lepisosteus osseus* (Linnaeus)
- Shortnose gar, *Lepisosteus platostomus* Rafinesque

### Bowfin Family, AMIIDAE

- Bowfin, *Amia calva* Linnaeus

### Herring Family, CLUPEIDAE

- Gizzard shad, *Dorosoma cepedianum* (Lesueur)
- Threadfin shad, *Dorosoma petenense* (Günther)

### Minnow Family, CYPRINIDAE

- Blacktail shiner, *Cyprinella venustus* (Girard)
- Common Carp, *Cyprinus carpio* Linnaeus
- Golden shiner, *Notemigonus crysoleucas* (Mitchill)
- Weed shiner, *Notropis texanus* (Girard)

### Pike and Pickerel Family, ESOCIDAE

- Chain Pickerel, *Esox niger* (Lesueur)

### Sucker Family, CATOSTOMIDAE

- Lake chubsucker, *Erimyzon sucetta* (Lacépède)
- Smallmouth buffalo, *Ictiobus bubalus* (Rafinesque)
- Bigmouth buffalo, *Ictiobus cyprinellus* (Valenciennes)
- Black buffalo, *Ictiobus niger* (Rafinesque)
- Spotted sucker, *Minytrema melanops* (Rafinesque)

### Freshwater Catfish Family, ICTALURIDAE

- Yellow bullhead, *Ameiurus natalis* (Lesueur)
- Blue catfish, *Ictalurus furcatus* (Lesueur)
- Channel catfish, *Ictalurus punctatus* (Rafinesque)
- Tadpole madtom, *Noturus gyrinus* (Mitchill)
- Flathead catfish, *Pylodictis olivaris* (Rafinesque)

### Pirate Perch Family, APHREDODERIDAE

- Pirate perch, *Aphredoderus sayanus* (Gilliams)

### Killifish Family, CYPRINODONTIDAE

- Golden topminnow, *Fundulus chrysotus* (Günther)
- Blackstripe topminnow, *Fundulus notatus* (Rafinesque)
- Blackspotted topminnow, *Fundulus olivaceus* (Storer)

Livebearer Family, POECILIIDAE

Western mosquitofish, *Gambusia affinis* (Baird and Girard)

Silverside Family, Atherinidae

Brook silverside, *Labidesthes sicculus* (Cope)

Temperate Bass Family, Percichthyidae

White bass, *Morone chrysops* (Rafinesque)

Yellow bass, *Morone mississippiensis* Jordan and Eigenmann

Sunfish Family, Centrarchidae

Green sunfish, *Lepomis cyanellus* Rafinesque

Warmouth, *Lepomis gulosus* (Cuvier)

Orangespotted sunfish, *Lepomis humilis* (Girard)

Bluegill, *Lepomis macrochirus* (Rafinesque)

Longear sunfish, *Lepomis megalotis* (Rafinesque)

Redear sunfish, *Lepomis microlophus* (Günther)

Spotted sunfish, *Lepomis punctatus* (Valenciennes)

Spotted bass, *Micropterus punctulatus* (Rafinesque)

Northern largemouth bass, *Micropterus salmoides salmoides* (Lacépède)

White crappie, *Pomoxis annularis* Rafinesque

Black crappie, *Pomoxis nigromaculatus* (Lesueur)

Drum Family, Sciaenidae

Freshwater drum, *Aplodinotus grunniens* Rafinesque

---

Threatened/endangered/exotic species

Silver carp, *Hypophthalmichthys molitrix*, have been observed leaping in Woolen Lake.

Bighead carp, *Hypophthalmichthys nobilis*, are also likely to occur in this lake, especially since they are present in great numbers in the Boeuf River, which occasionally backflows into the lake.

## CREEL

Historic Information/Type

Recreational angler surveys have not been conducted on this impoundment.

## HYDROLOGICAL CHANGES

In the 1960's and 1970's, irrigation of adjacent rice crops resulted in critically low water levels in late summer. Rice production in the immediate vicinity of Woolen Lake has declined in the past three decades, minimizing the annual de-watering for agricultural purposes

## **WATER USE**

### Hunting

None

### Skiing

No designated area, the middle section of the lake is suitable

### Swimming

No designated swimming areas

### Fishing

Fishing is popular, especially with boating anglers. There are no designated shoreline fishing areas or public fishing piers.

### Irrigation

Primarily residential, limited agricultural

### Highway Rights of Way

Parking on highway rights of way is prohibited by the Louisiana Department of Transportation and Development.